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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DODDS, HAROLD E	

ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/091,618	CHANDRASEKARAN ET AL.	
	Examiner	Art Unit	
	Harold E. Dodds, Jr.	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23 and 49-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-11,13-23,49,54-59 and 61-71* is/are rejected.

7)☒ Claim(s) *2-5,12,50-53 and 60* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/11/05-11/16/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 10, 18, 20-23, 49, 58, 66, and 68-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper et al (U.S. Patent No 5,924,096) and Bereznyi et al. (U.S. Patent No. 6,453,404).

3. Draper renders obvious independent claims 1 and 49 by the following:

"...modifying the data item in a first node of said multiple caches..." at col. 7, lines 46-48, col. 4, lines 1-3, and col. 8, lines 11-14.

"...to create a modified data item..." at col. 6, lines 64-64 and col. 7, lines 1-3.

"...sending the modified data item from said first node to a second node of said multiple

caches..." at col. 9, lines 29-31, col. 7, lines 46-48, col. 4, lines 1-3, and col. 8, lines 11-14.

"...the modified data item from said first node..." at col. 7, lines 46-48 and col. 4, lines 1-3.

"...to persistent storage...," at col. 4, lines 56-58.

"...after said modified data item has been sent from said first node to said second node..." at col. 7, lines 46-48, col. 9, lines 29-31, and col. 4, lines 1-3.

"...said first node sending a request..." at col. 4, lines 1-3 and col. 8, lines 46-49.

"...to a master of said data item..." at col. 8, lines 27-29 and col. 21, lines 22-25.

"...for writing said data item to persistent storage..." at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 56-58.

"...and in response to said request..." at col. 7, lines 60-61.

"...said master coordinating with said multiple caches..." at col. 13, lines 4-51.

"...to cause said data item to be written to persistent storage..." at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 56-58.

Draper does not explicitly teach the use of temporary storage.

4. However, Bereznyi explicitly teaches the use of temporary storage as follows:

"...without durably storing..." at col. 1, lines 12-13.

It would have been obvious to one of ordinary skill at the time of the invention to combine Bereznyi with Draper to use caches for temporary storage in order to use standard hardware to avoid the need to download the data from a data source a

second time and gain acceptance of the system. Draper and Bereznyi teach related applications. They teach the use of computers, the use of databases, the use of networks, the use of caches, the use of queries, the use of nodes, and the use of objects. For independent claims 1 and 49, the term "manage" is used to suggest the term "coordinate".

5. As per claims 10 and 58, the "...step of said first node sending a request to a master of said data item...," is taught by Draper at col. 4, lines 1-3, col. 8, lines 46-49, and col. 8 lines 3-10,

the "...for writing said data item to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48,

the "...includes the first node sending to said master...," is taught by Draper at col. 4, lines 1-3 and col. 9, lines 60-62,

the "...single message...," is taught by Bereznyi at col. 31, lines 12-14,

that requests writing a plurality of data items to persistent storage...," is taught by Draper at col. 8, lines 46-49, col. 6, lines 64-67, and col. 7, lines 1-3,

and the "...wherein said plurality of data items includes said data item...," is taught by Draper at col. 6, lines 64-67 and col. 7, lines 1-3.

6. As per claims 18 and 66, the "...determining whether a version of said data item...," is taught by Draper at col. 5, lines 24-25,

the "...that is at least as recent as said modified version..." is taught by Draper at col. 5, lines 24-28 and col. 7, lines 46-48,

the "...has already been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48,

the "...and if a version of said data item...," is taught by Draper at col. 5, lines 24-25,

the "...that is at least as recent as said modified version...," is taught by Draper at col. 5, lines 24-28 and col. 7, lines 46-48,

the "...has already been written to persistent storage..." is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48,

the "...then sending a write-notification message...," is taught by Bereznyi at col. 31, lines 2-3 and col. 31, lines 12-14,

the "...from said master...," is taught by Draper at col. 9, lines 60-62,

the "...to notify said first node...," is taught by Bereznyi at col. 4, lines 20-24 and col. 4, lines 55-60,

the "...that a version of said data item...," is taught by Draper at col. 5, lines 24-25,

the "...that is at least as recent as said modified version...," is taught by Draper at col. 5, lines 24-28 and col. 7, lines 46-48,

and the "...has already been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48.

7. As per claims 20 and 68, the "...selecting a particular node of said multiple caches...," is taught by Draper at col. 5, lines 19-20, col. 4, lines 1-3, and col. 8, lines 11-14,

the "...that has a particular version of said data item...," is taught by Draper at col. 5, lines 24-25,

the "...wherein said particular version is at least as recent...," is taught by Draper at col. 5, lines 24-28,

the "...as the modified data item in said first node...," is taught by is taught by Draper at col. 7, lines 46-48 and col. 9, lines 1-3,

the "...and causing said particular version of said data item...," is taught by Draper at col. 5, lines 24-25,

and the "...to be written from said particular node to persistent storage...," is taught by Draper at col. 6, lines 64-37, col. 7, lines 1-3, col. 4, lines 1-3, and col. 4, lines 46-48.

8. As per claims 21 and 69, the "...selecting the node of said multiple caches...," is taught by Draper at col. 5, lines 24-25, col. 4, lines 1-3, and col. 8, lines 14-17

and the "...that has a most recently modified version of said data item...," is taught by Draper at col. 5, lines 24-28 and col. 7, lines 46-48.

9. As per claims 22 and 70, the "...step of the master...," is taught by Draper at col. 8, lines 3-5,

informing the first node...," is taught by Bereznyi at col. 4, lines 20-24 and col. 4, lines 55-60,

the "...that said data item has been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48,

the "...in response to the master receiving confirmation...," is taught by Draper at col. 7, lines 60-61 and col. 9, lines 26-28,

and the "...that said particular version of said data item has been written to persistent storage...," is taught by Draper at col. 5, lines 24-25, col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48.

10. As per claims 23 and 71, the "...step of the master...," is taught by Draper at col. 8, lines 3-5,

the "...informing a set of caches...," is taught by Bereznyi at col. 4, lines 20-24 and col. 31, lines 19-21,

the "...that said data item has been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48,

the "...in response to the master receiving confirmation...," is taught by Draper at col. 7, lines 60-61 and col. 9, lines 26-28,

the "...that said particular version of said data item has been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48,

the "...wherein said set of caches includes caches..." is taught by Bereznyi at col. 31, lines 19-21,

the "...other than said particular node...," is taught by Draper at col. 4, lines 1-3,

the "...that contain modified versions of said data item...," is taught by Draper at col. 7, lines 46-48 and col. 5, lines 24-25,

and the "...that are not more recent than said particular version...," is taught by Draper at col. 7, lines 46-48 and col. 5, lines 24-28.

11. Claims 6-9 and 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper and Bereznyi as applied to the claims above, and further in view of Devarakonda et al. (U.S. Patent No. 5,659,682).

As per claims 6 and 54, the "...step of sending a request to a master is performed by sending the request...," is taught by Draper at col. 8, lines 46-48 and col. 8, lines 3-5,

but the "...to a global lock manager...," is not taught by either Draper or Bereznyi.

However, Devarakonda teaches the use of global lock managers as follows:

"...Commonly, a global lock manager is provided to resolve lock requests among tasks running on different processors and to maintain queues of tasks awaiting access to particular lock entities..."

It would have been obvious to one of ordinary skill at the time of the invention to combine Devarakonda with Draper and Bereznyi to provide global lock managers in order to resolve lock requests among tasks running on different processors and to maintain queues of tasks awaiting access to particular lock entities. Draper, Bereznyi, and Devarakonda teach related applications. They teach the use of computers, the use of databases, the use of networks, the use of caches, the use of nodes, and the use of objects, Draper and Devarakonda teach the modification of data, and Bereznyi and Devarakonda teach the use of applications, the use of locks, and the use of messages.

12. As per claims 7 and 55, the "...step of sending a request to a master is performed by sending the request...," is taught by Draper at col. 8, lines 46-48 and col. 8, lines 3-5,

the "...to a lock manager that is one of a plurality of lock managers...," is taught by Devarakonda at col. 3, lines 24-28,

and the "...within a distributed lock management system...," is taught by Devarakonda at col. 3, lines 20-23.

13. As per claims 8 and 56, the "...step of sending from the master...," is taught by Draper at col. 8, lines 46-48 and col. 8, lines 3-5,

the "...to interested nodes...," is taught by Draper at col. 1, lines 18-29,

the "...write-notification messages...," is taught by Bereznyi at col. 31, lines 2-3 and col. 31, lines 12-14,

the "...indicating that said data item has been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48,

and the "...in response to said data item being written to persistent storage...," is taught by Draper at col. 7, lines 60-61, col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48.

For claims 8 and 50 the term "involved nodes" is used to suggest the term "interested nodes".

14. As per claims 9 and 57, the "...step of sending write-notification messages...," is taught by Bereznyi at col. 31, lines 2-3 and col. 31, lines 12-14,

the "...includes the master sending to at least one interested node...," is taught by Draper at col. 8, lines 3-5, col. 8, lines 46-49, and col. 1, lines 18-29,

the "...single message...," is taught by Bereznyi at col. 31, lines 12-14,

the "...that notifies said at least one interested node...," is taught by Bereznyi at col. 4, lines 20-24, col. 10, lines 3-5, and col. 4, lines 55-60,

and the "...that a plurality of data items have been written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48.

15. Claims 13 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper, Bereznyi, and Devarakonda as applied to claims 8, and 56 above respectively, and further in view of Maris et al. (U.S. Patent No. 6,032,188) and Matena (U.S. Patent No. 6,243,814).

As per claims 13 and 61, the "...immediately sending write-notification messages...," is taught by Bereznyi at col. 11, lines 14-16, col. 31, lines 2-3, and col. 31, lines 12-14,

the "...to a first set of interested nodes...," is taught by Draper at col. 1, lines 18-29,

the "...where said first set of interested nodes includes the interested nodes...," is taught by Draper at col. 1, lines 18-29,

the "...that have requested said data item to be written to persistent storage...," is taught by Draper at col. 8, lines 46-49, col. 21, lines 22-25, col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 58-58,

the "...to a second set of nodes...," is taught by Draper at col. 1, lines 18-29,

the "...where said second set of nodes includes interested nodes...," is taught by Draper at col. 1, lines 18-29,

but the "...and delaying the sending of write-notification messages..."

and the "...that do not belong to said first set of interested nodes...," are not taught by either Draper, Bereznyi, or Devarakonda.

However, Mairs teaches the delaying of messages as follows:

"...This delay time period is the minimum time between transmitting data notification messages..." at col. 12, lines 25-26.

It would have been obvious to one of ordinary skill at the time of the invention to combine Mairs with Draper, Bereznyi, and Devarakonda to delay messages in order allow other data processing to occur and inform the user only after the processing of current data has taken place. Draper, Bereznyi, Devarakonda, and Mairs teach related applications. They teach the use of computers, the use of networks, and the use of nodes, Draper, Devarakonda, and Mairs teach the modification of data, and Bereznyi, Devarakonda, and Mairs teach the use of applications and the use of messages.

Mairs does not teach the exclusion of nodes from node sets.

However, Matena teaches the exclusion of nodes from node sets as follows:

"...FIG. 4 shows the general situation, taking into account the possibility that any of the nodes may have a different CK number than the rest, if that node has failed and been excluded from the membership set..." at col. 5, lines 37-41.

It would have been obvious to one of ordinary skill at the time of the invention to combine Matena with Draper, Bereznyi, Devarakonda, and Mairs to exclude nodes from node sets in order to only allow nodes in the set, which have the proper identification numbers. Draper, Bereznyi, Devarakonda, Mairs, and Matena teach related applications. They teach the use of computers, the use of networks, and the use of nodes, and Draper, Bereznyi, Devarakonda, and Matena teach the use of

databases and Bereznyi, Devarakonda, Mairs, and Matena teach the use of applications, and the use of messages.

16. Claims 14, 16, 62, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper, Bereznyi, and Devarakonda as applied to the claims above, and further in view of Maris et al. (U.S. Patent No. 6,032,188).

As per claims 14 and 62, the "...to at least one interested node...," is taught by Draper at col. 1, lines 18-29,

but the "...delaying the sending of write-notification messages...," is not taught by either Draper, Bereznyi, or Devarakonda.

However, Mairs teaches the delaying of messages as follows:

"...This delay time period is the minimum time between transmitting data notification messages..." at col. 12, lines 25-26.

It would have been obvious to one of ordinary skill at the time of the invention to combine Mairs with Draper, Bereznyi, and Devarakonda to delay messages in order allow other data processing to occur and inform the user only after the processing of current data has taken place. Draper, Bereznyi, Devarakonda, and Mairs teach related applications. They teach the use of computers, the use of networks, and the use of nodes, Draper, Devarakonda, and Mairs teach the modification of data, and Bereznyi, Devarakonda, and Mairs teach the use of applications and the use of messages.

17. As per claims 16 and 64, the "...write-notification message is sent...," is taught by Bereznyi col. 31, lines 2-3 and col. 31, lines 12-14,

the "...to the at least one interested node...," is taught by Draper at col. 1, lines 18-29,

the "...in response to the at least one interested node...," is taught by Draper at col. 7, lines 60-61 and col. 1, lines 18-29,

and the "...requesting that said data item be written to persistent storage...," is taught by Draper at col. 8, lines 46-49, col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, line 46-48.

18. Claims 15 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper, Bereznyi, Devarakonda, and Maris as applied to claims 14 and 62 above respectively, and further in view of Yohe et al. (U.S. Patent No. 6,012,085).

As per claims 15 and 63, the "...write-notification message is sent...," is taught by Bereznyi col. 31, lines 2-3 and col. 31, lines 12-14,

the "...to the at least one interested node...," is taught by Draper at col. 1, lines 18-29,

the "...made by said at least one interested node...," is taught by Draper at col. 1, lines 18-29,

but the "...in response to a lock request...," is not taught by either Draper, Bereznyi, Devarakonda, or Maris.

However, Yohe teaches responding to lock requests as follows:

"...The cache verifying computer includes means for recognizing a LOCK request from the remote client computer and for obtaining a lock on the data from the file server computer in response to the LOCK request..." at col. 3, lines 37-41.

It would have been obvious to one of ordinary skill at the time of the invention to combine Yohe with Draper, Bereznyi, Devarakonda, and Mairs to respond to lock requests in order provide for the control of access to parts of database by applications

running of remote terminals and thus provide for wider access to the database. Draper, Bereznyi, Devarakonda, Mairs, and Yohe teach related applications. They teach the use of computers, the use of networks, and the use of nodes, Draper, Bereznyi, Devarakonda, and Yohe teach the use of caches and the use of objects, Draper, Devarakonda, Mairs, and Yohe teach the modification of data, and Bereznyi, Devarakonda, Mairs, and Yohe teach the use of applications and the use of messages.

19. Claims 17 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper, Bereznyi, Devarakonda, and Maris as applied to claims 14 and 62 above respectively, and further in view of Srbljic et al. (U.S. Patent No. 5,933,849).

As per claims 17 and 65, the "...write-notification message is sent...," is taught by Bereznyi col. 31, lines 2-3 and col. 31, lines 12-14,
the "...to the at least one interested node...," is taught by Draper at col. 1, lines 18-29,
the "...that the master sends to the at least one interested node...," is taught by Draper at col. 8, lines 3-5, col. 8, lines 46-49, and col. 1, lines 18-29,
the "...for the at least one interested node...," is taught by Draper at col. 1, lines 18-29,
the "...to transfer another data item to another node...," is taught by Draper at col. 12, lines 20-22, col. 4, lines 1-3, and col. 4, lines 1-3,
but the "...within a ping request...," is not taught by either Draper, Bereznyi, Devarakonda, or Maris.

However, Srbljic teaches the use of ping requests as follows:

"...On the other hand, if cache E fails to respond to a request for the object from cache A, then the cache E or the connection

to cache E may be inoperative, and another cache on the directory list must be selected and sent a UDP ping request..." at col.

It would have been obvious to one of ordinary skill at the time of the invention to combine Srbljic with Draper, Bereznyi, Devarakonda, and Mairs to respond to lock requests in order provide for the control of access to parts of database by applications running of remote terminals and thus provide for wider access to the database. Draper, Bereznyi, Devarakonda, Mairs, and Srbljic teach related applications. They teach the use of computers, the use of networks, the use of nodes, Draper, Bereznyi, Devarakonda, and Srbljic teach the use of caches and the use of objects, and Bereznyi, Devarakonda, Mairs, and Srbljic teach and the use of messages. For claims 17 and 65 the term "move" is used to suggest the term "transfer".

20. Claims 11 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper and Bereznyi as applied to claims 10 and 48 above respectively, and further in view of Ranger (U.S. Patent No. 5,999,940).

As per claims 11 and 59, the "...step of sending a single message includes sending a message...," is taught by Bereznyi at col. 31, lines 2-3 and col. 31, lines 12-14,

the "...to request that all data items...," is taught by Draper at col. 8, lines 46-49 and col. 11, lines 23-25,

the "...be written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 56-58,

but the "...that identifies a bin..."

and the "...that belong to the bin...," are not taught by either Draper or Bereznyi.

However, Ranger teaches the use of bins as follows:

"...If the first `M` items are not all members of the same class, even if members of the same superclass, (step 706), then the classification criterion becomes "By Class" (step 726). In this case, class names of the different classes of the first `M` items are used as bin categories. If there are other, different classes among the items beyond the first `M` items, or if the number of classes exceed `R` (step 728), the system provides an "other" bin for these classes (step 730)..." at col. 20, lines 30-37.

It would have been obvious to one of ordinary skill at the time of the invention to combine Ranger with Draper and Bereznyi to provide bins in order to provide containers for different classes of objects. Draper, Bereznyi, and Ranger teach related applications. They teach the use of computers, the use of databases, the use of networks, the use of caches, the use of queries, and the use of objects, Draper and Ranger teach the modification of data, and Bereznyi, and Ranger teach the use of applications and the use of messages.

21. Claims 19 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper and Bereznyi as applied to claims 18 and 66 above respectively, and further in view of Frank et al. (U.S. Patent No. 6,832,120).

As per claims 19 and 67, the "...if a version of said data item...," is taught by Bereznyi at col. 38, lines 5-8 and col. 21, lines 22-25,

the "...that is at least as recent as said modified version...," is taught by Bereznyi at col. 38, lines 5-8,

the "...has not already been written to persistent storage...," is taught by Draper at col. 5, lines 29-31, col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48,

the "...then sending a write-perform message...," is taught by Bereznyi at col. 31, lines 2-14,

the "...from said master...," is taught by Draper at col. 8, lines 27-29,

the "...for said modified version...," is taught by Bereznyi at col. 38, lines 5-8,

the "...to be written to persistent storage...," is taught by Draper at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 46-48,

but the "...to grant permission...," is not taught by either Draper or Bereznyi.

However Frank teaches the granting of permission as follows:

"...Each of these user objects can be granted or denied permissions to any of the Security Permissions in each of the 8 Security Groups..." at col. 7, lines 15-17.

It would have been obvious to one of ordinary skill at the time of the invention to combine Frank with Draper and Bereznyi to grant permissions in order to allow different users or processes to either access to or modify parts of databases. Draper, Bereznyi, and Frank teach related applications. They teach the use of computers, the use of databases, the use of networks, the use of caches, the use of queries, the use of nodes, and the use of objects, Draper and Frank teach the modification of data and the use of permissions, and Bereznyi, and Frank teach the use of applications and the use of messages.

Allowable Subject Matter

22. Claims 2-5, 12, 50-53, and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner has not been able to identify any prior art that teaches the use of an ordered series of bins where the ordered series corresponds to time ranges.

Response to Arguments

23. Applicants' arguments filed 21 April 2005 have been fully considered but they are not persuasive. In the first argument for independent claim 1 on page 9, paragraph 2, the Applicants state:

"To illustrate, the portion of Bereznyi relied upon by the Office Action to show the claim fragment of "...modifying the data items in a first node of said multiple caches..." states, *in toto*:
For example, the user may get a particular data item's properties from the cache and modify them to alter the time and/or frequency limit data and return the edited properties to the cache. **Thus, the data item is unaltered**, but its properties have been altered...The remote computer 40 may be another personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the personal computer 20, although only a memory storage device 42 has been illustrated in FIG. 1... With the use of multiple caches, the system 100 advantageously permits distributed caching, as illustrated in FIG. 5. (Col. 21, lines 22-25, Col. 4, lines 55-60, and Col. 6, lines 53-55). (emphasis added).
This cited portion of Bereznyi, instead of discussing modifying the data items in a first node of multiple caches, merely discusses (a) modifying the properties of a data item, while leaving the data item itself unaltered, e.g., the properties of a data item may be used to determine when to remove the data item from the cache, (b) remote computer 40 may be a variety of devices, and (c) FIG. 5 shows a multi-level cache. These topics have nothing to do with modifying data items within a cache. Importantly the portion cited by the Office Action clearly states, "the data item is unaltered." Consequently, the portion cited by the Office Action expressly teaches away from the Office Action's suggestion that the Bereznyi teaches the claim fragment of "modifying the data items in a first node of said multiple caches."

The Examiner disagrees. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. The Sheard reference has been replaced by the Draper reference. Draper teaches the modifying of data items as follows:

"...For instance, the step 516 may ensure that only events which modify data item 202 contents are placed in the event list..." at col. 7, lines 46-48.

This reference specifically states the modification of the data items contents and is not qualified in any manner.

24. In the second argument for independent claim 1 on page 9, paragraph 3 and page 10, paragraph 1, the Applicants state:

"Further, the Office Action alleges that Bereznyi teaches the use of a master as claimed in Claim 1. However, the portion of Bereznyi cited to show a master, featured in the element of "in response to said request, said master coordinating with said multiple caches to cause said data item to be written to persistent storage," merely states, *in toto*:
The main cache class is CCache, which is responsible for managing the local cache, one or more remote cache servers, and all data that flows between them. (Col. 8, lines 27-29).
The above portion of Bereznyi lacks any suggestion of a master, in response to a request for writing the data item to persistent storage, which causes a data item to be written to persistent storage. While the cited portion discusses that the main cache class is responsible for managing different caches, this act is not analogous to "in response to said request, said master coordinating with said multiple caches to cause said data item to be written to persistent storage" because, *inter alia*, the cited portion of Bereznyi lacks any mention of persistently storing data items."

The Examiner disagrees. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. The Sheard reference has been replaced by the Draper reference. Draper teaches this limitation by

"and in response to said request" at col. 7, lines 60-61, "said master coordinating with said multiple caches" at col. 13, lines 4-51, and "to cause said data item to be written to persistent storage" at col. 6, lines 64-67, col. 7, lines 1-3, and col. 4, lines 56-58. Draper lists storage devices used for permanent storage as follows:

"...Suitable storage devices include floppy disks, hard disks, tape, CD-ROMs, PROMs, random access memory, and other computer system storage devices..." at col. 4, lines 56-58.

25. In the third argument for independent claim 1 on page 10, paragraph 3 and page 11, paragraph 1, the Applicants state:

"Similarly, Sheard is cited to show numerous other claim fragments of Claim 1, including "persistent storage," "said first node sending a request," "for writing said data item to persistent storage," "and in response to said request," and "to cause said data item to be written to persistent storage." The Applicants readily agree that (a) forms of persistent storage existed prior to their invention, and (b) requests were sent from nodes prior to their invention. However, Applicants respectfully submit that Sheard is directed towards sharply different subject matter than that featured in Claim 1. For example, at a high level, Sheard lacks any suggestion of sending a modified data item from a first cache to a second cache. Consequently, the teachings of Sheard do not cure the deficiencies of Bereznyi in teaching or suggesting the elements of Claim 1."

The Examiner disagrees. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. The Sheard reference has been replaced by the Draper reference. Draper teaches this limitation by "sending the modified data item from said first node to a second node of said multiple caches" at col. 9, lines 29-31, col. 7, lines 46-48, col. 4, lines 1-3, and col. 8, lines 11-14.

26. In the fourth argument for independent claim 49 on page 11, paragraph 4 and page 12, paragraph 1, the Applicants state:

"Independent Claim 49 recites features similar to that of Claim 1, except that Claim 49 is recited in computer-readable medium format. Consequently, it is respectfully submitted that, for at least the reasons given above with respect to Claim 1, Claim 49 is patentable over the cited art and is in condition for allowance."

The Examiner disagrees. Since the responses to the first three arguments have shown that independent claim 1 is rendered obvious and independent claim 49 has similar limitations then independent claim 49 is still rendered obvious.

27. In the fifth argument for claims 2-23 and 50-71 on page 12, paragraph 2, the Applicants state:

"Claims 2-23 and 50-71 are dependent claims, each of which depends (directly or indirectly) on one of the claims discussed above. Each of Claims 2-23 and 50-71 are therefore allowable for the reasons given above for the claim on which it depends. In addition, each of Claims 2-23 and 50-71 introduces one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those limitations is not included at this time, although the Applicants reserve the right to further point out the differences between the cited art and the novel features recited in the dependent claims."

The Examiner disagrees since the responses to the first four arguments have shown that independent claims 1 and 49 are still rendered obvious, claims 6-11 and 13-23 depend on independent claim 1, claims 54-59 and 61-71 depend on independent claim 49, and no additional arguments have been made for any of the dependent claims then claims 6-11, 13-23, 54-59, and 61-71 are still rendered obvious. Claims 2-6, 12, 50-53, and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold E. Dodds, Jr. whose telephone number is (571)-272-4110. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571)-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Harold E. Dodds, Jr.

Harold E. Dodds, Jr.
Patent Examiner
December 27, 2005